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A NEW SPECIES OF *DIORYCTRIA* (LEPIDOPTERA: PYRALIDAE: PHYCITINAE) FROM THE SOUTHEASTERN UNITED STATES

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Abstract.—***Dioryctria taedivorella***, a new species of coneworm, is described, illustrated and compared with *Dioryctria merkeli* Mutuura and Munroe.

Key Words: *Dioryctria*, coneworm, distribution, loblolly pine

Hedlin et al. (1981), in their investigation of cone and seed insects of North America, included nine species of *Dioryctria* Zeller in the southeastern United States. Recently, as a result of collecting and rearing efforts in North Carolina, and with the assistance of USDA Forest Service entomologists who supplied material from other southeastern states, we have been able to study larger series of *Dioryctria* and conclude that additional undescribed species occur in the region. In 1964, Neunzig et al., in publishing on *Dioryctria* in North Carolina, used the name *zimmermani* (Grote) for a species feeding in loblolly pine (*Pinus taeda* L.). They indicated, however, that the identification of this species was tentative and that additional taxonomic study was needed. Mutuura and Munroe (1979) were of the opinion that this North Carolina material, as well as specimens from elsewhere in much of the Southeast, belonged to their *Dioryctria merkeli*. Having compared the type of *D. merkeli*, on loan from the Canadian National Collection, with North Carolina specimens and other *Dioryctria* that are supposedly *merkeli*, we concluded: (1) the name *merkeli* should be restricted to certain populations of *Dioryctria* mainly feeding as larvae in slash pine (*Pinus elliotii* Engelmann) in northern Florida, southern Georgia and southern Mississippi, and (2) the similar, more northern and more widespread species, associated with loblolly pine, is new.

Dioryctria taedivorella, Neunzig and Leidy, New Species

Figs. 1–6

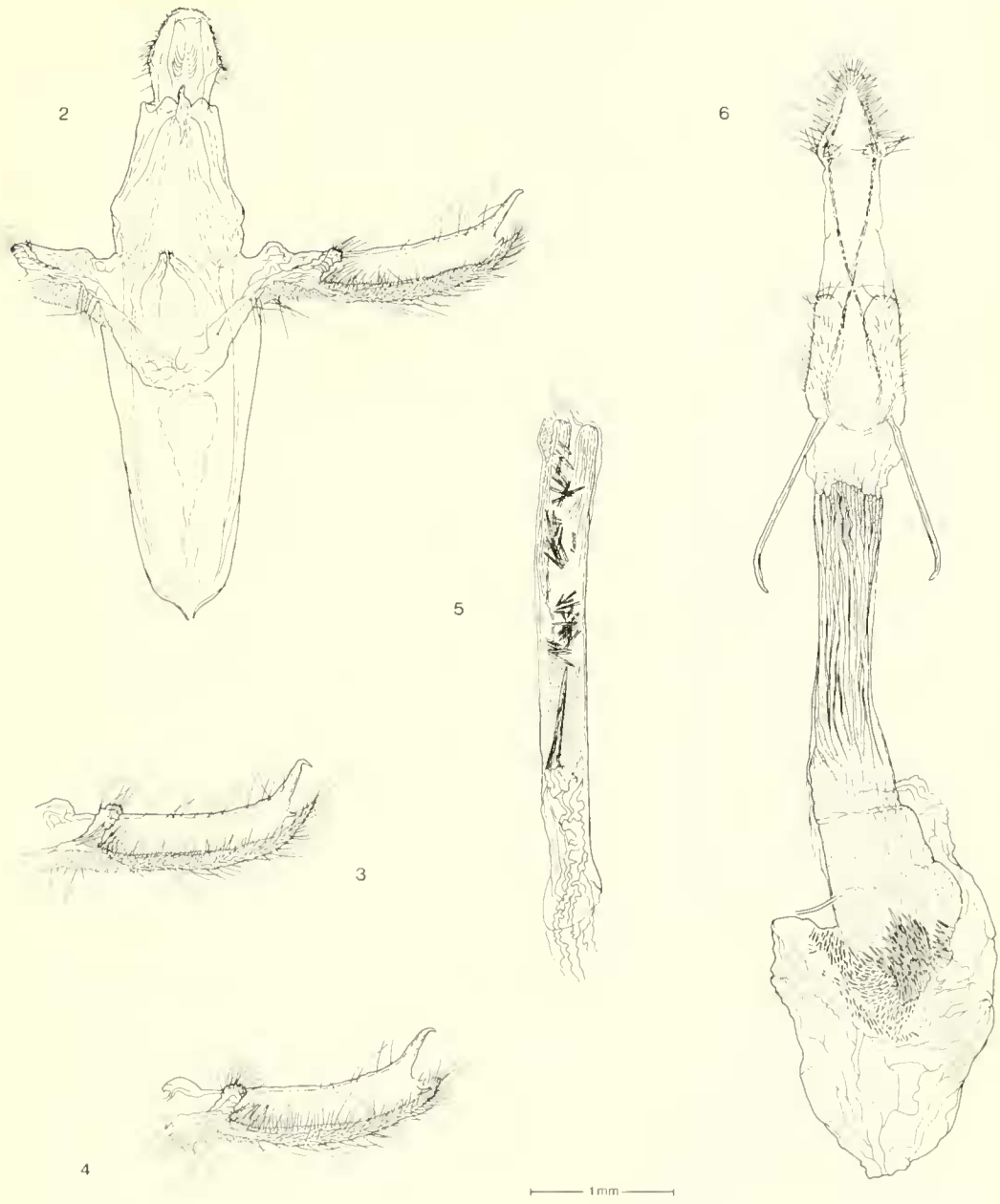
Diagnosis.—*Dioryctria taedivorella* is most similar to *Dioryctria merkeli*. *D. taedivorella*, however, is a darker species with the antemedial and postmedial lines less distinct. These lines are chiefly white in *D. merkeli* and mostly gray in *D. taedivorella*. Also, the dorsum of the thorax of *D. taedivorella* is mostly brown to reddish brown, whereas the dorsum of the thorax of *D. merkeli* is mostly pale gray with few or no brown or reddish brown scales.

Description.—*Head:* frons mostly brown or fuscous, some scales white or tipped with white or gray, vertex reddish brown or brownish red. Labial palpus reaching above vertex in both sexes, mostly brown, fuscous or black with varying amounts of white, gray, reddish brown or brownish red. Maxillary palpus squamous, fuscous, white and gray. Antenna of male very weakly serrate with abundant sensilla trichodea. *Collar:* brown and reddish brown. *Thorax:* dorsum brown

Figs. 1–6. *Dioryctria taedivorella*. 3.5 × 1. Habitus, holotype. 2. Male genitalia, most of left valva and aedeagus omitted. 3, 4. Right valva, paratypes. 5. Aedeagus. 6. Female genitalia.

to reddish brown, sometimes with a few gray scales and usually with patches of fuscous or black scales; tufts of reddish brown scales posteriorly. *Forewing:* above with distinct, strongly raised scales forming subbasal, antemedial and postmedial patches; additional smaller patches of raised scales at base of wing and on discal spot; ground color brown; antemedial line obscure, formed of white-tipped gray scales (some scales suffused with red); postmedial line similar in color to antemedial line (medial part of line sometimes includes patch of fuscous or black-tipped scales); basal, subbasal, medial and terminal area with numerous reddish brown (usually rust-colored) scales; a few black scales in basal area (particularly part of small patch of raised scales), additional black scales basally and distally bordering antemedial line and expanding into broad dark patch along costa, basally and distally bordering postmedial line and forming large dark costal patch but weakly developed near inner margin, and forming terminal line. In addition to white-tipped gray scales of transverse lines, small patches of similarly colored scales near costa in basal half, in medial area and basad of terminal line; undersurface of male with no contrastingly-colored scales, or with a few brownish red scales near costa. Length of wing 12.0–15.0 mm. *Hindwing:* above, smoky gray, conspicuously darker along margins. *Male and female genitalia:* (Figs. 2–6) essentially like those of *D. merkeli*.

Type material.—Holotype, ♂, USA, N. CAROLINA, Lenoir Co., Kinston, US 70 Byp & Neuse R., 1-IX-1983, N. A. Leidy, *Pinus taeda* cone, emerg. 13-IX-1983, genitalia slide 895 HHN, in USNM. Paratypes 25 ♂, 51 ♀. USA, N. CAROLINA, Lenoir Co., Kinston, US 70 Byp & Neuse R., 28-VII-1983, 14-VIII-1983, N. A. Leidy, *Pinus taeda* cone, emerg. 8-IX-1983, 17-IX-1983, 6-X-1983, 12-X-1983, genitalia slides 872, 883, 893, 903 HHN (1 ♂, 3 ♀); USA, N. CAROLINA, Robeson Co., Lumberton, NC 211 4 mi W of I-95, J. B. Lattay Forest Tree Nur., 27-VII-1983, N. A. Leidy, host: *Pinus taeda* cone, emerg. 5-IX-1983, 10-IX-1983,



X-1983, genitalia slides 885, 887, 891 HHN (3 ♂); USA, N. CAROLINA, Robeson Co., nr Lumberton, J. B. Lattay For. Nur., NC 211 4 mi W of I-95, 22-VII-1985, N. A. Leidy & M. Maynor, in *Pinus taeda* cone, emerg. 2-IX-1985 to 1-X-1985 (7 ♂, 8 ♀); USA, N. CAROLINA, Granville Co., Lewis, US 15 0.15 mi N of SR 1424, 18-VII-1985, N. A. Leidy, in *Pinus taeda* cone, emerg. 19-VIII-1985, 22-VIII-1985 (3 ♀); USA, N. CAROLINA, Wayne Co., Goldsboro, Claridge State For., SR 1326 1.5 mi

N of US 70, 15-VII-1985, N. A. Leidy, in *Pinus taeda* cone, emerg. 13-IX-1985 (1 ♂); USA, N. CAROLINA, Onslow Co., nr Richlands, NC 24 at SR 1230, 16-VII-1985, N. A. Leidy, in *Pinus taeda* cone, emerg. 21-IX-1985 (1 ♂); USA, N. CAROLINA, Onslow Co., nr Maysville, Hofmann Forest, 25-VI-1985, NA Leidy & DJ Lodge, in *Pinus taeda* cone, emerg. 11-IX-1985 (1 ♂); USA, S. CAROLINA, Berkeley Co., Francis Marion Seed Orchard, col. 23–27-VI-1983, 2nd year cones *Pinus taeda* (1 ♂, 2 ♀); USA, GEORGIA, Putnam Co., col. 9-VII-1985, emerg. 16-IX-1985, *Pinus taeda* (1 ♀); USA, ALABAMA, Greene Co., Weyerhaeuser Co., col. 1985, *Pinus taeda* (2 ♂, 10 ♀); USA, ALABAMA, Greene Co., Weyerhaeuser Co., col. 15-IX-86, emerg. 26-IX-86, 3-X-86, *Pinus taeda* (9 ♀); USA, ALABAMA, Greene Co., Weyerhaeuser Co., col. 15-IX-86, *Pinus taeda* (8 ♂, 14 ♀); USA, MISSISSIPPI, Perry Co., Erambert Seed Orchard, col. 16–20-VI-1986, 2nd yr. cone *Pinus taeda* (1 ♀). Paratypes deposited in USNM, NCSU and BMNH.

Distribution and life history.—Known from Virginia south to northern Florida and west to eastern Texas. The principal host is loblolly pine. Neunzig et al. (1964), under the name *D. zimmermani,* gave a detailed account of the biology of *D. taedivorella.*

Comments.—Although Mutuura and Munroe (1979) stated that their *D. merkeli* included populations associated with loblolly pine throughout most of the southeastern United States, they restricted their type series of *D. merkeli* to moths reared from slash pine growing in northern Florida, southern Mississippi, and southern Georgia.

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